

# ABSTRACT

This invention characterizes the specific peptide fragment derived from specially prepared zinc charged fetuin and a method of preparation thereof, wherein the fragment was found to contain  
5 an apoptosis-inducing activity. Specifically, the amino acid sequence of this peptide is H-T-F-S-G-V-A-S-V-E and correlates to amino acid no. 300-309 of fetuin, referred to herein as Fetuin Peptide Fragment (FPF 300-09). FPF 300-09 strongly induced apoptosis in LNCaP (prostate cancer) and HT-29 (colon cancer)  
10 cells without affecting CCD 18 Co (normal colon) cells. The in vitro tissue culture study demonstrated that the FPF 300-09 is more potent than the parent molecule (full-length zinc charged fetuin) in inducing apoptosis. FPF 300-09 has a LD<sub>50</sub> of 0.3-0.4  $\mu$ M, while the LD<sub>50</sub> for zinc-charged fetuin is 3-10  $\mu$ M.